

IN THE CLAIMS:

1. (Amended) An apparatus, comprising:

a support structure formed of a material selected from the group consisting of glass fibers, plastic fibers, stainless steel wire, and kovar wire; and

A1 a sample collection substrate constructed for solid phase microextraction on the support structure, wherein the substrate covers the entire perimeter of one end of the support structure and the substrate comprises a material selected from the group consisting of organic aerogels, inorganic aerogels, organic xerogels, inorganic xerogels, and combinations thereof.

13. (Amended) A method comprising:

A2 applying a layer of a gel precursor solution on at least an end of a support structure, wherein the support structure is formed of a material selected from the group consisting of glass fibers, plastic fibers, stainless steel wire, and kovar wire and the substrate covers the entire perimeter of one end of the support structure; and

drying the layer to form a sample collection substrate constructed for use in a solid phase microextraction apparatus, wherein the substrate comprises a material selected from the group consisting of organic aerogels, inorganic aerogels, organic xerogels, inorganic xerogels, and combinations thereof.